Chapter 34

Exchange Rates and the Balance of Payments

Introduction

In the mid-1990s, the world's developed nations together exported more goods and services to other countries than they imported. Since then, however, they have become net importers of goods and services. In this chapter, you will learn about how economists keep track of nations' exports and imports of goods and services. You will also understand why emerging countries have become net exporters at the same time that developed nations have switched to being net importers.

Learning Objectives

• Distinguish between the balance of trade and the balance of payments
• Identify the key accounts within the balance of payments
• Outline how exchange rates are determined in the markets for foreign exchange
Learning Objectives (cont’d)

• Discuss factors that can induce changes in equilibrium exchange rates
• Understand how policymakers can go about attempting to fix exchange rates
• Explain alternative approaches to limiting exchange rate variability

Chapter Outline

• The Balance of Payments and International Capital Movements
• Determining Foreign Exchange Rates
• The Gold Standard and the International Monetary Fund
• Fixed versus Floating Exchange Rates

Did You Know That...

• Since 1980, in years when the U.S. trade deficit decreased, U.S. real GDP growth was much lower than in years when the trade deficit increased.
• Trade deficits are also not necessarily associated with lower job growth.
• The U.S. has experienced a trade deficit in every year since 2001, while the European Union has experienced a trade surplus. U.S. job growth, however, has been more than twice as high as European Union job growth.
• Clearly, experiencing a trade deficit is not necessarily “bad news” for a nation.
The Balance of Payments and International Capital Movements

• Balance of Trade
  - The difference between exports and imports of goods

The Balance of Payments and International Capital Movements (cont’d)

• Balance of Payments
  - A system of accounts that measures transactions of goods, services, income and financial assets between domestic households, businesses, and governments and residents of the rest of the world during a specific time period

Table 34-1 Surplus (+) and Deficit (−) Items on the International Accounts

<table>
<thead>
<tr>
<th>Surplus Items (+)</th>
<th>Deficit Items (−)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports of merchandise</td>
<td>Imports of merchandise</td>
</tr>
<tr>
<td>Private and governmental gifts from foreign residents</td>
<td>Private and governmental gifts to foreign residents</td>
</tr>
<tr>
<td>Foreign use of domestically operated travel and transportation services</td>
<td>Use of foreign-operated travel and transportation services</td>
</tr>
<tr>
<td>Foreign tourist expenditures in this country</td>
<td>U.S. tourist expenditures abroad</td>
</tr>
<tr>
<td>Foreign military spending in this country</td>
<td>Military spending abroad</td>
</tr>
<tr>
<td>Interest and dividend receipts from foreign entities</td>
<td>Inherited and dividends paid to foreign residents</td>
</tr>
<tr>
<td>Sales of domestic assets to foreign residents</td>
<td>Purchases of foreign assets</td>
</tr>
<tr>
<td>Funds deposited in this country by foreign residents</td>
<td>Funds placed in foreign depository institutions</td>
</tr>
<tr>
<td>Sales of gold to foreign residents</td>
<td>Purchase of gold from foreign residents</td>
</tr>
<tr>
<td>Sale of domestic currency to foreign residents</td>
<td>Purchases of foreign currency</td>
</tr>
</tbody>
</table>
The Balance of Payments and International Capital Movements (cont’d)

• Accounting Identities
  – Values that are equivalent by definition

The Balance of Payments and International Capital Movements (cont’d)

• Accounting identities
  – When family expenditures exceed income, the family must be doing one of the following:
    1. Reducing its money holdings, or selling stocks, bonds, or other assets
    2. Borrowing
    3. Receiving gifts from friends or relatives
    4. Receiving public transfers from a government

The Balance of Payments and International Capital Movements (cont’d)

• Accounting identities
  – Ultimately, net lending by households must equal net borrowing by businesses and governments.
The Balance of Payments and International Capital Movements (cont’d)

• Disequilibrium
  - If expenditures exceed income, the situation cannot continue indefinitely.

• Equilibrium
  - Households, businesses, and governments must eventually reach equilibrium.

The Balance of Payments and International Capital Movements (cont’d)

• An accounting identity among nations
  - When people from different nations trade or interact, certain identities or constraints must also hold.
  - Let’s look at the three categories of the balance of payments transactions.

The Balance of Payments and International Capital Movements (cont’d)

• Three categories of balance of payments transactions
  1. Current account transactions
  2. Capital account transactions
  3. Official reserve account transactions
The Balance of Payments and International Capital Movements (cont’d)

- **Current Account**
  - A category of balance of payments transactions that measures the exchange of merchandise, the exchange of services and unilateral transfers

- **Current account transactions**
  - Merchandise trade exports and imports
    - Tangible items—things you can feel, touch and see
  - Service exports and imports
    - Intangible items that are bought and sold
  - Unilateral transfers
    - Gifts from citizens and from governments

<table>
<thead>
<tr>
<th>Current Account</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Exports of goods</td>
<td>-1,234.8</td>
</tr>
<tr>
<td>(2) Imports of goods</td>
<td>-2,321.4</td>
</tr>
<tr>
<td>(3) Balance of merchandise trade</td>
<td>-986.6</td>
</tr>
<tr>
<td>(4) Exports of services</td>
<td>-167.2</td>
</tr>
<tr>
<td>(5) Imports of services</td>
<td>-165.1</td>
</tr>
<tr>
<td>Current account balance</td>
<td>-1,130.3</td>
</tr>
<tr>
<td>(7) Reserves on current account</td>
<td>-955.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Capital Account</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(12) P.I.S. private capital inflows</td>
<td>-1,303.9</td>
</tr>
<tr>
<td>(13) Private capital outflows</td>
<td>-2,851.5</td>
</tr>
<tr>
<td>(14) Balance on current account plus balance on capital account</td>
<td>-1,544.6</td>
</tr>
<tr>
<td>Official Reserve Transactions Account</td>
<td></td>
</tr>
<tr>
<td>(15) Official transactions balance</td>
<td>-185.5</td>
</tr>
<tr>
<td>(16) Total balance</td>
<td>9</td>
</tr>
</tbody>
</table>

Sources: U.S. Department of Commerce, Bureau of Economic Analysis, unless otherwise noted. Numbers in parentheses refer to detailed sources of data on consolidation of balance of payments transactions and official reserve transactions.
The Balance of Payments and International Capital Movements (cont’d)

• Balancing the current account
  - Net exports plus unilateral transfers plus net investment income exceeds zero
    • Current account surplus
  - Net exports plus unilateral transfers plus net investment income is negative
    • Current account deficit

The Balance of Payments and International Capital Movements (cont’d)

• A current account deficit means that we are importing more goods and services than we are exporting.
• A current account deficit must be paid by the export of money or money equivalent.

The Balance of Payments and International Capital Movements (cont’d)

• Capital Account
  - A category of balance of payments transactions that measures flows of real and financial assets
The Balance of Payments and International Capital Movements (cont’d)

- The current account and capital account must sum to zero
  - In the absence of interventions by finance ministries or central banks

Capital account + Current account = 0

Figure 34-1  The Relationship Between the Current Account and the Capital Account

Sources: International Monetary Fund; Economic Indicators.

The Balance of Payments and International Capital Movements (cont’d)

- Official reserve account transactions
  1. Foreign currencies
  2. Gold
  3. Special drawing rights (SDRs)
  4. Reserve position in the IMF
  5. Financial assets held by an official agency (such as the U.S. Treasury)
The Balance of Payments and International Capital Movements (cont’d)

• Special Drawing Rights
  – Reserve assets created by the International Monetary Fund for countries to use in settling international payment obligations

• International Monetary Fund
  – An agency founded to administer an international foreign exchange system and to lend to member countries that had balance of payments problems
  – The IMF now functions as a lender of last resort.

The Balance of Payments and International Capital Movements (cont’d)

• Question
  – What affects the balance of payments?

• Answers
  – Relative rate of inflation
  – Political stability
    • Capital flight

Determining Foreign Exchange Rates

• When you buy foreign products, you have dollars.
• But the foreign country can’t pay workers in dollars.
• So there must be a way of exchanging these dollars.
Determining Foreign Exchange Rates (cont'd)

- **Foreign Exchange Market**
  - A market in which households, firms and governments buy and sell national currencies

- **Exchange Rates**
  - The price of one nation's currency in terms of another

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Determining Foreign Exchange Rates (cont'd)

- Every U.S. transaction involving the importation of foreign goods constitutes a supply of dollars (and a demand for some foreign currency), and the opposite is true for export transactions.

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Determining Foreign Exchange Rates (cont'd)

- **Flexible Exchange Rates**
  - Exchange rates that are allowed to fluctuate in the open market in response to changes in supply and demand.
  - Sometimes called *floating exchange rates*. 
Determining Foreign Exchange Rates (cont’d)

• The equilibrium foreign exchange rate
  - Appreciation
    • An increase in the exchange value of one nation’s currency in terms of the currency of another nation
  - Depreciation
    • An decrease in the exchange value of one nation’s currency in terms of the currency of another nation

International Example: Going Loony over an Appreciating Loonie

• One face of a Canadian dollar coin displays an image of a bird called the loon, so the Canadian dollar is informally known as the “loonie.”
• In the mid-2000s, the loonie was worth only about 75 U.S. cents.
• In the late 2000s, however, its value had soared to over 1 U.S. dollar.
• For Canadian export firms, the loonies considerable appreciation rapidly made their products more expensive to U.S. residents

Hence, U.S. sales of their products plummeted.
In addition, U.S. residents cut back on visits to Canada, because prices of touring Canada and its goods and services increased.
Which groups in the United States gained and which lost when the loonie appreciated?
• Appreciation and depreciation of Euros
  – We say your demand for euros is derived from your demand for European pharmaceuticals.

• An example of derived demand
  – Assume the pharmaceuticals cost 100 euros per package.
  – If 1 euro costs $1.45, then a package of pharmaceuticals would cost $145.

• In panel (a), we show the demand schedule for packages of European pharmaceuticals in the United States.
• In panel (b), we show the U.S. demand curve, which slopes downward, for European pharmaceuticals.
Determining Foreign Exchange Rates (cont’d)

- An example of derived demand
  - From panel (c), we see the number of euros required to purchase up to 700 packages.
  - If the price per package in the EMU is 100 euros, we can now find the quantity of euros needed to pay for the various quantities demanded.
**Determining Foreign Exchange Rates (cont'd)**

- An example of derived demand
  - In panel (d), we see the derived demand for euros in the United States in order to purchase the various quantities given in panel (a).
  - In panel (e), we draw the resultant demand curve—this is the U.S. derived demand for euros.
Determining Foreign Exchange Rates (cont’d)

• Let us now look at the total demand for and supply of euros, as shown in the next figures.
Determining Foreign Exchange Rates (cont’d)

- Market determinants of exchange rates
  - Changes in real interest rates
  - Changes in productivity
  - Changes in product preferences
  - Perceptions of economic stability

The Gold Standard and the International Monetary Fund

- The Gold Standard
  - An international monetary system in which nations fix their exchange rates in terms of gold
  - All currencies are fixed in terms of all others, and any balance of payments deficits or surpluses can be made up by shipments of gold.

The Gold Standard and the International Monetary Fund (cont’d)

- The Gold Standard
  - A balance of payments deficit
    - More gold flowed out than flowed in
    - Equivalent to a restrictive monetary policy
  - A balance of payments surplus
    - More gold flowed in than out
    - Equivalent to an expansionary monetary policy
The Gold Standard and the International Monetary Fund (cont'd)

• Problems with the Gold Standard
  – A nation gives up control of its monetary policy
  – New gold discoveries often caused inflation

The Gold Standard and the International Monetary Fund (cont'd)

• Bretton Woods and the International Monetary Fund
  – In 1944, representatives of capitalist countries met in Bretton Woods, New Hampshire.
    • Created a new international payment system to replace the gold standard
  – Members agreed to maintain the value of their currencies within 1% of declared par value.
    • Members allowed a onetime adjustment
    • Members can alter exchange rates only with IMF approval thereafter.

The Gold Standard and the International Monetary Fund (cont'd)

• Par Value
  – The officially determined value of a currency
The Gold Standard and the International Monetary Fund (cont'd)

- Bretton Woods and the IMF
  - 1971: President Richard Nixon suspended the convertibility of the dollar into gold.
  - The United States devalued the dollar (lowered its official value) relative to the currencies of 14 major industrial nations.
  - 1973: EEC, now the EU, allowed their currencies to float against the dollar.

Fixed versus Floating Exchange Rates

- Many other nations of the world have been less willing to permit the values of their currencies to vary.

Figure 34-7 Current Foreign Exchange Rate Arrangements

Source: International Monetary Fund.
Fixed versus Floating Exchange Rates (cont’d)

- Central banks can keep exchange rates fixed as long as they have enough foreign exchange reserves to deal with potentially long-lasting changes in the demand for or supply of their nation’s currency.

Figure 34-8 A Fixed Exchange Rate

The Bank of Malaysia buys ringgit with dollars shifting the demand for ringgit to the right.

The Bank of Malaysia buys ringgit with dollars shifting the demand for ringgit to the right.

The supply of ringgit shifts to the right as Thai residents demand more U.S. goods.

The value of the ringgit will fall.

Fixed versus Floating Exchange Rates (cont’d)

- Foreign Exchange Risk
  - The possibility that changes in the value of a nation’s currency will result in variations in market value of assets
  - Limiting foreign exchange risk is a classic rationale for adopting a fixed exchange rate.
**Fixed versus Floating Exchange Rates (cont'd)**

- **Hedge**
  - A financial strategy that reduces the chance of suffering losses arising from foreign exchange risk
  - Currency swaps

**Fixed versus Floating Exchange Rates (cont'd)**

- **The exchange rate as a shock absorber**
  - Exchange rate variations can perform a valuable service for a nation’s economy.
    - Outside demand for nation’s products falls
    - Trade deficit leads to a drop in demand for nation’s currency—it depreciates
    - Nation’s goods now less expensive to other countries—exports increase

**International Example: Measuring the Value of Zimbabwe’s Dollar**

- For years, Zimbabwe’s government has stated that the “official” value of its currency has been a few hundred Zimbabwe dollars per U.S. dollar.
- However, the actual market rates of exchange have been in millions of Zimbabwe dollars per U.S. dollar.
- Recently, the value of the Zimbabwe dollar went through numerous gyrations, mostly in a downward direction.
International Example: Measuring the Value of Zimbabwe’s Dollar (cont’d)

• Then traders found out that prices of shares of an insurance company called Old Mutual are traded in both Zimbabwe and the United Kingdom. Each share in the company is worth the same after adjusting for valuation in the different currencies.
• Dividing the Zimbabwe dollar price of a share in Old Mutual by the British pound price in London markets yields a market measure of the exchange rate in Zimbabwe dollars per British pound.

International Example: Measuring the Value of Zimbabwe’s Dollar (cont’d)

• Multiplying this exchange rate by the market exchange rate of British pounds per U.S. dollar then yields the market rate of exchange of Zimbabwe dollars per U.S. dollar.
• Why might the fact that Zimbabwe’s annual inflation rate has exceeded 2.5 million percent help explain why the nation’s currency has experienced sudden depreciation?

Fixed versus Floating Exchange Rates (cont’d)

• Splitting the difference
  – A dirty float
  – Crawling pegs
  – Target zones
Fixed versus Floating Exchange Rates (cont'd)

• **Dirty Float**
  - Active management of a floating exchange rate on the part of a country's government, often in cooperation with other nations.

Fixed versus Floating Exchange Rates (cont'd)

• **Crawling Peg**
  - An exchange rate arrangement in which a country pegs the value of its currency to the exchange value of another nation's currency but allows the par value to change at regular intervals.

Fixed versus Floating Exchange Rates (cont'd)

• **Target Zone**
  - A range of permitted exchange rate variations between upper and lower exchange rate bands that a central bank defends by selling or buying foreign exchange reserves.
Fixed versus Floating Exchange Rates (cont’d)

- **Question**
  - What do you think: Is it possible to "manage" foreign exchange rates?

- **Answer**
  - Exchange rate interventions trivial relative to total foreign exchange on a daily basis

Issues and Applications: The Current Account Deficit for One Group of Nations is the Current Account Surplus for Another

- The United States, as with most of the world’s developed nations, has been experiencing a significant current account deficit in recent years.
- Emerging countries such as China and India are financing these account deficits.
- Figure 34-9 displays the combined current account balances of the world’s most developed nations since 1996.

Issues and Applications: The Current Account Deficit for One Group of Nations is the Current Account Surplus for Another (cont’d)

- Residents of developed nations have been financing their current account deficits by obtaining from emerging countries the funds they use to finance their imports.
- Effectively, emerging countries have provided developed nations with the funds required to buy the emerging countries’ exports.
Figure 34-9  Combined Current Account Balances of Developed Nations and of Emerging Countries

Issues and Applications: The Current Account Deficit for One Group of Nations is the Current Account Surplus for Another (cont’d)

• If the current account balances of the world’s least developed nations were added to the combined current account surplus of emerging countries, would the result exactly mirror the current account deficit of the world’s developed nations? Why or why not?

Summary Discussion of Learning Objectives

• The balance of trade versus the balance of payments
  • Balance of trade
    ▪ Exports of goods minus imports
  • Balance of payments
    ▪ A system of account for all transactions between a nation’s residents and the rest of the world
Summary Discussion of Learning Objectives (cont'd)

• The key accounts within the balance of payments.
  - Current account
  - Capital account
  - Official reserve transactions account

Summary Discussion of Learning Objectives (cont'd)

• Exchange rate determination in the market for foreign exchange
  - The equilibrium exchange rate is the exchange rate at which the quantity of a country’s currency demanded is equal to the quantity supplied

Summary Discussion of Learning Objectives (cont'd)

• Factors that can induce changes in equilibrium exchange rates
  - Changes in desired imports or exports
  - Changes in real interest rates
  - Changes in relative productivity
  - Tastes and preferences of consumers
  - Perceptions of stability
Summary Discussion of Learning Objectives (cont'd)

• How policymakers can attempt to keep exchange rates fixed
  - A country’s central bank increases the demand for its country’s currency if the exchange rate begins to fall

• Alternative approaches to limiting exchange rate variability
  - Dirty floats
  - Crawling pegs
  - Target zones